

A characterization of symmetric tube domains by convexity of Cayley transform images

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In this talk, we deal with the parametrized family of Cayley transforms defined by Nomura specialized to tube domains. Each of these transforms maps a homogeneous tube domain biholomorphically onto a bounded domain. We show that a homogeneous tube domain is symmetric if and only if its Cayley transform image is convex and the parameter of the Cayley transform is a specific one. In this case, the Cayley transform coincides with the usual one defined in terms of a Jordan algebra.